

DA20-C1

## AIRCRAFT PERFORMANCE

N	Katana DA20-C1	Year:	HP:
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## Inspections

Annual \_\_\_\_\_ ELT Batt \_\_\_\_\_

100 Hr. \_\_\_\_\_ Xpndr \_\_\_\_\_

(tach) \_\_\_\_\_

AD Cur yes / no Squawk go / nogo

## Weight Limits

Gross Wt. \_\_\_\_\_

Useful Load \_\_\_\_\_

Max Baggage \_\_\_\_\_

## Weight and Balance Calculation

ITEM	WEIGHT	ARM	MOMENT
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EMPTY WEIGHT \_\_\_\_\_

Pilot &amp; Co-Pilot \_\_\_\_\_ 5.63 \_\_\_\_\_

Baggage Area (44 lbs.) \_\_\_\_\_ 32.44 \_\_\_\_\_

Fuel (\_\_\_\_ gal usable) \_\_\_\_\_ 32.44 \_\_\_\_\_

Takeoff Weight (1720 lbs.) \_\_\_\_\_

Takeoff C.G. (8.03-12.24) \_\_\_\_\_

Estimated Fuel Burn \_\_\_\_\_ 32.44 \_\_\_\_\_

Landing Weight \_\_\_\_\_

Landing C.G. (8.03-12.24) \_\_\_\_\_

## Performance Calculation

ATIS wind: \_\_\_\_ @ \_\_\_\_ ?C/dew: \_\_\_\_ / \_\_\_\_ Alt: \_\_\_\_ Rwy: \_\_\_\_

Press Alt: \_\_\_\_ Density Alt: \_\_\_\_ X-Wind: \_\_\_\_ H-Wind: \_\_\_\_

Takeoff Distance - Short Field (Ground Run) \_\_\_\_\_

Takeoff Distance - Short Field (50' Obstacle) \_\_\_\_\_

Landing Distance - Short Field (50' Obstacle) \_\_\_\_\_

Headwind - decrease distance by 10% for each 9 kts

Tailwind - increase distance by 10% for each 2 kts

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## KATANA DA20-C1 PRE-FLIGHT CHECKLIST

### FLIGHT PLANNING

Airplane .....	CHECK MAINTENANCE RECORDS
Route & Navigation Planning .....	COMPLETE
Weather .....	BRIEFING COMPLETE
Baggage .....	WEIGHED
Weight & Balance / CG .....	CALCULATED / WITHIN LIMITS
Performance Planning .....	COMPLETE
Flight Plan .....	FILED

### INSIDE CABIN

Aircraft Papers .....	ARROW
Aircraft Hobbs & Tachometer .....	VERIFY
Headset, Charts, Lapboard .....	ON BOARD
Baggage .....	STOWED & SECURE
Structural Temperature Indicator .....	LESS THAN 131° F / 54.5° C
Flight Control Lock .....	REMOVED
Ignition Switch .....	OFF
Avionics Master Switch .....	OFF
Circuit Breakers .....	IN
Compass Deviation Card .....	CHECKED
Cabin Heat .....	OFF
Parking Brake .....	OFF
Throttle .....	IDLE
Mixture .....	IDLE CUTOFF
GEN/BAT Switch .....	ON
Warning Lights .....	ILLUMINATED
Fuel Quantity Indicators .....	CHECK QUANTITY
Engine Gauges .....	CHECK
Map Light .....	OPERATIONAL
Instrument Lights .....	OPERATIONAL and DIMMABLE
Trim .....	NEUTRAL
Wing Flaps .....	EXTEND and RETRACT FULLY
Trim and Flap Indicator Lights .....	OPERATIONAL
Landing Light / All Other Lights .....	CHECK OPERATION
GEN/BAT Switch .....	OFF
Emergency Locator Transmitter .....	ARM
Fire Extinguisher .....	CHECK
Rescue Hammer .....	CHECK
Canopy .....	CLEAN and UNDAMAGED

## KATANA DA20-C1 PRE-FLIGHT CHECKLIST

### LEFT WING

Stall Warning .....	CHECK, SUCK ON OPENING
Pitot Static Probe .....	CLEAN, HOLES OPEN
Tie Down / Chocks .....	REMOVE
Left Main Gear (33 psi) .....	CHECK
Taxi and Landing Lights .....	CHECK
Wing Tip, Position Lights, Strobe .....	CHECK
Aileron Balancing Weight .....	CHECK
Aileron Including Inspection Panel .....	CHECK
Wing Flap Including Inspection Panel .....	CHECK

### FUSELAGE

Skin .....	CHECK
Fuel Tank Vent .....	CHECK
Fuel Drains (tank sump and filter bowl) .....	DRAIN / SAMPLE
Fuel Quantity .....	VISUAL (use pipette)
Antennas .....	CHECK

### EMPENNAGE

Stabilizers and Control Surfaces .....	CHECK
Tie Down .....	REMOVE
Fixed Tab on Rudder .....	CHECK

### RIGHT WING

Wing Flap Including Inspection Panel .....	CHECK
Aileron Balancing Weight .....	CHECK
Aileron Including Inspection Panel .....	CHECK
Wing Tip, Position Lights, Strobe .....	CHECK
Tie Down / Chocks .....	REMOVE
Right Main Gear (33 psi) .....	CHECK

### NOSE

Engine Oil Level .....	CHECK (4 – 6 quarts)
Cowling .....	CHECK SECURE
Air Intakes .....	CLEAR
Propeller & Spinner .....	CHECK FOR NICKS & SECURITY
Alternator Belt .....	CHECK
Nose Gear (26 psi) .....	CHECK
Wheel Chocks .....	REMOVE

\* \* \* Push aircraft across **tie-down cable** if applicable \* \* \*

**KATANA DA20-C1****Engine Start / Ramp Operations****BEFORE ENGINE START**

Preflight Inspection ..... COMPLETE  
 Cell Phones and Pagers ..... OFF  
 Rudder Pedals ..... ADJUST & LOCK  
 Seats, Belts, and Shoulder Harnesses ..... ADJUST & LOCK  
 Passenger Briefing ..... COMPLETE

Flight Plan – Seat Belts – Door & Window Operation – Exit to Rear – Meet at Tail

Parking Brake ..... SET, PEDALS PUMPED FOR PRESSURE  
 Flight Controls ..... FREE  
 Fuel Shut-off Valve ..... OPEN  
 Avionics Master Switch ..... OFF  
 GEN/BAT Switch ..... ON  
 Generator Warning Light ..... ILLUMINATED  
 Nav Lights / Strobes ..... ON  
 Instrument Panel Lighting ..... AS REQUIRED  
 Canopy ..... CLOSE and SECURE  
 Canopy Unlock Warning Light ..... OFF  
 ATIS ..... OBTAIN / SET ALTIMETER

**READY FOR ENGINE START****STARTING ENGINE**

Mixture ..... FULL RICH  
 Throttle ..... IDLE  
 Brakes ..... HOLD  
 Propeller Area ..... SHOUT "CLEAR"  
 Ignition Key ..... IN  
 Fuel Pump ..... ON  
 Fuel Prime ..... ON  
 Throttle ..... FULL for 3 to 5 SECONDS  
 Ignition Switch ..... START (release when engine starts)  
 Throttle ..... 800 – 1000 RPM  
 Fuel Prime ..... OFF  
 Oil Pressure ..... GREEN  
 Fuel Pressure ..... CHECK  
 Mixture ..... FULL RICH  
 Voltmeter ..... CHECK  
 Warning Lights, Gen, Canopy, Start ..... PUSH TO TEST  
 Starter Warning Light ..... OFF  
 Wing Flaps ..... CRUISE

**ENGINE START COMPLETE****KATANA DA20-C1****Before Taxi Checklist****FLIGHT INSTRUMENTS**

Avionics Master Switch ..... ON  
 Intercom ..... CHECK  
 Magnetic Compass (MC) ..... CHECK  
 Airspeed Indicator (ASI) ..... CHECK  
 Attitude Indicator (AI) ..... CHECK  
 Turn Coordinator (TC) ..... CHECK  
 Heading Indicator (HI) ..... CHECK  
 Vertical Speed Indicator (VSI) ..... CHECK  
 Clock ..... CHECK

**FLIGHT INSTRUMENT CHECK COMPLETE****NAV / COMM RADIO**

Com 1 ..... TOWER / CTAF  
 Com 2 ..... GRND / FSS  
 Nav 1 ..... SET VOT / VOR & ID  
 Nav 2 ..... SET VOT / VOR & ID  
 HSI / OBS ..... COMPARE  
 Sensitivity (5? = ½ scale) ..... EACH WAY  
 Ambiguity (tune reciprocal & check sensitivity) ..... EACH WAY

**NAV / COMM CHECK COMPLETE****GPS / COMM RADIO**

Power ..... ON  
 Self Test OK? ..... ENT  
 Initialization (date, time, Ref) OK? ..... ENT  
 Database (North American) Acknowledge? ..... ENT  
 Waypoint Page ..... CURR AIRPORT  
 Comm Freq Set ..... LEFT KNOBS  
 NAV 2 Page (Present Position) ..... RIGHT KNOBS  
 Direct To ..... INITIATE  
 Enter Waypoint Identifier ..... RIGHT KNOBS  
 Display Waypoint Page ..... ENT  
 Approve Waypoint Page ..... ENT  
 NAV 1 Page (

**GPS CHECK COMPLETE**

Transponder ..... SET 1200 / TEST / STANDBY  
 Taxi Light ..... ON  
 Parking Brake ..... RELEASED

**\*\*\* Obtain Permission to Taxi \*\*\***

**KATANA DA20-C1****Before Takeoff / Runup****RUNUP CHECK**

Parking Brake ..... SET, PEDALS PUMPED FOR PRESSURE  
 Canopy ..... CLOSED and LOCKED  
 Canopy Unlock Warning Light ..... OFF  
 Flight Controls ..... FREE & CORRECT  
 Elevator Trim ..... NEUTRAL  
 Fuel Shutoff Valve ..... OPEN  
 Fuel Quantity ..... CHECK  
 Fuel Pressure ..... CHECK  
 Fuel Prime ..... OFF  
 Fuel Pump ..... ON  
  
 Throttle ..... 1700 RPM  
 Mixture ..... FULL RICH  
 Magneto ..... CHECK  
 Oil Pressure ..... CHECK  
 Oil Temperature ..... 75° min  
 Alternator Load ..... CHECK  
 Vacuum Gauge ..... CHECK  
 Throttle ..... IDLE (engine does not falter)  
 Throttle ..... 1000 RPM  
  
 Circuit Breakers ..... CHECK PUSHED IN  
 Flight Instruments ..... CHECK & SET  
 Radios ..... SET  
 Transponder ..... ON ALTITUDE  
 Landing Light ..... ON  
 Wing Flaps ..... TAKEOFF  
 Takeoff Briefing ..... COMPLETE  
  
 Rotation Speed: \_\_\_\_\_ KIAS  
 Takeoff Distance: \_\_\_\_\_ feet  
 Runway Length: \_\_\_\_\_ feet  
 Parking Brake ..... RELEASED

**\*\*\* Obtain Permission to Take Off \*\*\***

**KATANA DA20-C1****Normal Flight Checklist****NORMAL TAKEOFF**

Wing Flaps ..... TAKEOFF  
 Throttle ..... FULL OPEN  
 Rotate ..... 44 KIAS  
 Climb Speed ..... 70 KIAS

**CLIMB**

Flaps (400 ft AGL) ..... CRUISE  
 Airspeed ..... 70-80 KIAS  
 Throttle ..... FULL OPEN  
 Mixture ..... FULL RICH  
 Elevator Trim ..... ADJUST  
 Landing Light ..... OFF (or as required)

**CRUISE**

Fuel Pump ..... OFF  
 Throttle ..... (no more than 75% recommended)  
 Mixture ..... LEAN TO 25 deg F RICH OF PEAK  
 Elevator Trim ..... ADJUST  
 Engine Instruments ..... CHECK

**DESCENT**

Fuel Pump ..... ON  
 Mixture ..... FULL RICH  
 Power ..... AS DESIRED  
 CHT (240 deg F min – not below 300°F for more than 5 min) ..... MONITOR

**APPROACH**

Gas (fuel pump) ..... ON  
 Undercarriage ..... CHECK  
 Mixture ..... FULL RICH  
 Propeller ..... CHECK  
 Safety (seats, belts, and shoulder harnesses) ..... SECURE  
 Landing Light ..... ON

**Katana DA20-C1****Airspeeds for Safe Operation****Takeoff – Flaps Takeoff**

Rotation .....	44 KIAS
Short Field, Flaps Up, Clear 50 feet .....	52 KIAS

**Enroute Climb – Flaps Cruise**

Normal Climbout .....	70-80 KIAS
Best Rate of Climb .....	70 KIAS
Best Angle of Climb .....	60 KIAS

**Landing Approach**

Downwind – Flaps CRUISE .....	70 KIAS
Base – Flaps T/O .....	60 KIAS
Final – Flaps LDG .....	55 KIAS

**Balked Landing**

Maximum Power – Flaps T/O .....	58 KIAS
Maximum Power – Flaps LDG .....	53 KIAS

**Maximum Speed in Turbulent Conditions**

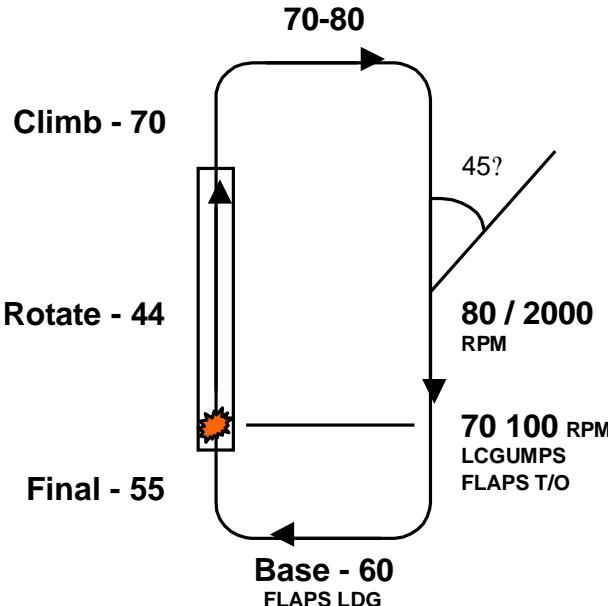
1720 lbs. .....	106 KIAS
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**Best Glide**

Flaps CRUISE .....	70 KIAS
Flaps T/O .....	60 KIAS
Flaps LDG .....	53 KIAS

**Maximum Demonstrated Crosswind Velocity** .....

15 Knots
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**Katana DA20-C1****After Landing Checklist****AFTER LANDING CHECK**

Wing Flaps .....	CRUISE
Mixture .....	FULL RICH
Landing Lights / Strobes .....	AS REQUIRED
Transponder .....	STANDBY

**AFTER LANDING CHECK COMPLETE****SHUTDOWN**

Parking Brake .....	SET, PEDALS PUMPED FOR PRESSURE
Throttle .....	1000 RPM
Ignition Switch .....	PERFORM MAGNETO SAFETY CHECK
Throttle .....	1700 RPM
Mixture .....	LEAN FOR MAXIMUM RPM
Fuel Pump .....	OFF
Avionics Master Switch .....	OFF
Electrical Equipment, Autopilot (if installed) .....	OFF
Taxi / Landing Lights .....	OFF
Throttle .....	1000 RPM
Mixture .....	IDLE CUTOFF
Ignition Switch .....	OFF, KEY OUT OF IGNITION
GEN/BAT Switch .....	OFF
Parking Brake .....	RELEASED

**SHUTDOWN COMPLETE****SECURING AIRCRAFT**

Chocks & Tie-downs .....	SPECIFIC TO FACILITY
Control Lock .....	INSTALL
Aircraft Hobbs & Tachometer .....	RECORD
Windows .....	CLOSE
Electrical Switches .....	VERIFY OFF
Ignition Switch .....	VERIFY OFF
GEN/BAT Switch .....	VERIFY OFF
Canopy .....	LOCK
Post Flight Inspection .....	COMPLETE

**AIRCRAFT SECURED**